SHARED-USE MOBILITY CENTER

Objective-Driven Data Sharing for Transit Agencies in Mobility Partnerships

- Executive Summary -

The Challenge

Advanced technologies are fueling the growth of app-enabled shared mobility services and new mobility service providers. Transit agencies and cities have looked to partnerships with these new providers—Mobility on Demand (MOD) solutions—to enhance their public transit services. A primary challenge in implementing MOD solutions has been reaching an agreement between the public and private partners over data sharing. Drawing on lessons learned from the Federal Transit Administration's (FTA) MOD Sandbox program and beyond, this paper aims to support the decision-making process of transit agencies that are considering deployment of MOD or similar integrated mobility solutions in partnership with private-sector mobility service providers.

Driven by the project objectives and project type, an agency's data needs may include historical data for MOD service planning, trip information for MOD service evaluation, and/or real-time data for integrated trip discovery and booking apps. However, agencies have faced challenges to obtaining the data that they might need.

These challenges include those from both public and private partners.

- **Privacy**—trip data from on-demand services generate granular location data that could identify an individual person and their travel behavior.

- **Competitiveness**—private partners operate in a competitive market, and do not want to reveal business operations or strategy.

- **Public Records Laws**—depending on state laws, trip data might be subject to disclosure from public records requests.

- **Data Security**—the sensitivity of granular data requires both the agency and its partners to have strong data security practices.

- **Aggregation**—the partners need to reach an agreement on the data parameters and levels of spatial and temporal aggregation for sharing.

- **National Transit Database (NTD) and Performance-Based Funding**—as of the writing of this paper, trips from a pilot project are not counted in NTD numbers. If a pilot becomes a program, having these numbers will be important for agency funding.

- **Capability Constraints**—legal and planning resources are needed to initiate the partnership, and computational as well as analytical resources are needed to evaluate it on an ongoing and forward-looking basis.

Deciding on the Right Approach

Based on observations from inside and outside the MOD Sandbox program, a variety of possible approaches are available to agencies to address these challenges and subsequently obtain and analyze the data that are necessary to meet project goals. Those approaches include project-level, regulatory, and legislative means to overcome the specific challenges mentioned above:

+ Agencies should understand what potential providers' approaches to data sharing are and aim to select a partner with whom they can find a mutually agreeable parameter set and aggregation level for data sharing.

+ If constraints related to public records disclosures or agency capability are impeding progress to obtaining the data that they need, agencies should explore using a third-party repository, provided that the information that will be made available is supportive of agency objectives.

+ Transit agencies and supporting organizations can proactively influence the modernization of public records laws to protect sensitive travel data from public disclosure and still retain data internally for evaluation, planning, and monitoring the performance of their services.

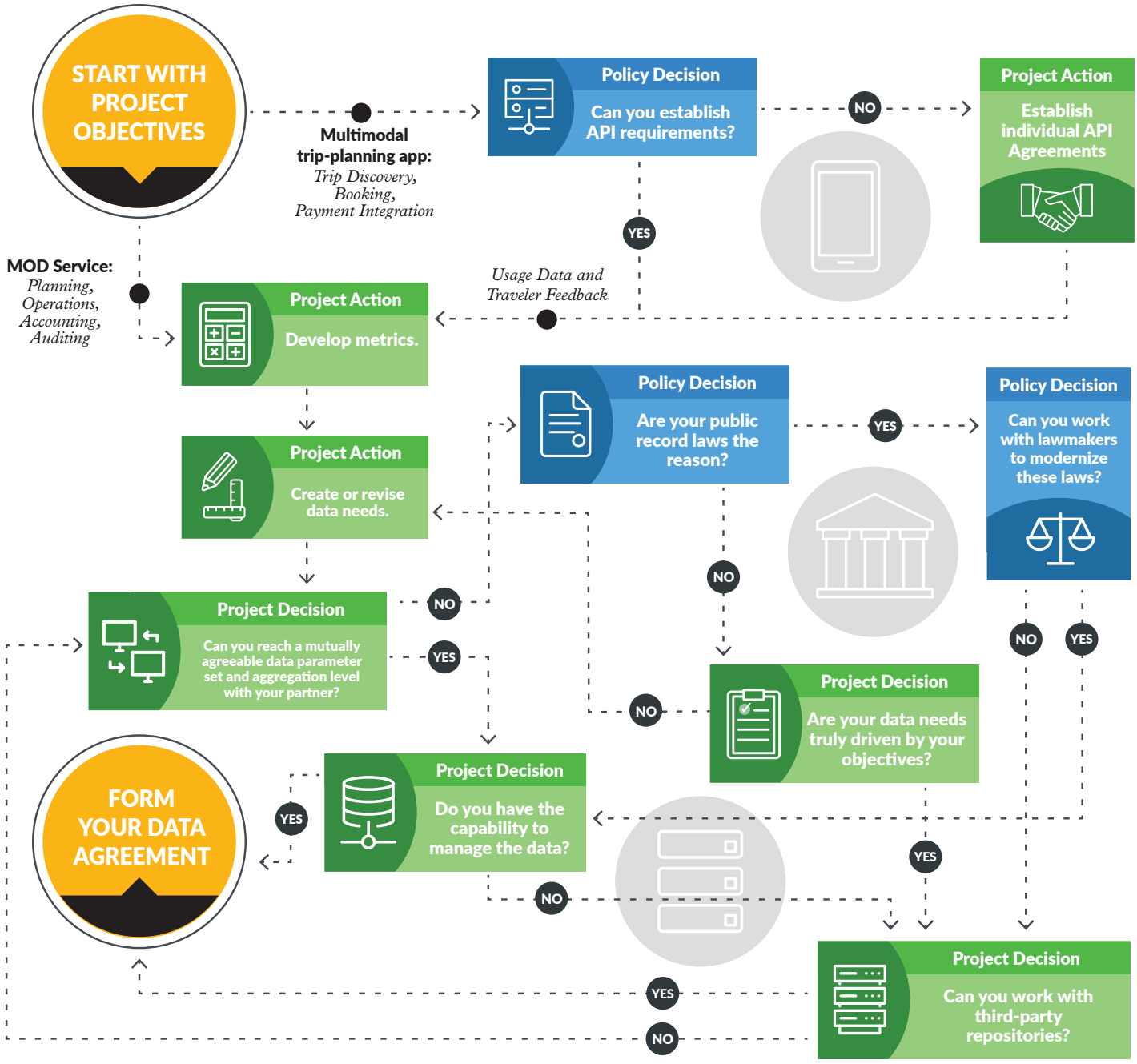
+ To overcome the lack of availability of API data for multimodal trip planning, transit agencies, together with states or cities, can establish requirements for providers to open up basic data parameters needed for trip-planning apps.

+ The federal government could consider requiring partnerships to have clearly defined data management strategies to be eligible for federal funding.

Regardless of their geographic location, size, coverage area, customers, or culture, transit agencies and their partners would benefit from following a structured approach while forming any partnerships to integrate their services. This structured approach would include clearly defining the objectives and associated performance indicators; identifying the required data and data constraints; identifying the partners and establishing agreements where the required data will be available; strategizing on data management and managing associated tradeoffs; and working on regulatory barriers that could provide opportunities for better service for the public.

Decision Tree

The multitude of challenges and options to address them led to the creation of a decision tree shown below (and in the full report) to assist agencies in determining the right approach for them. The decision tree directs the agency sequentially through the important choices, with benefits and trade-offs, to inform the final data-sharing agreement.



Advantages and Disadvantages of Decisions

Project Type	Decision	Advantages	Disadvantages
MOD Service	**Mutually agreeable parameter set and aggregation level**	• Direct negotiation with provider to address concerns and data delivery format • Addresses specific needs for project and methods for data ownership and handling	• Data resolution may be too coarse • Lack of standard requires one-off agreements for every project, including extensions • Differences may not be reconcilable in the end
	Modernize public records laws	• Clarity on what data are protected • Establishes bounds for future projects/agreements	• May be a longer-term solution • Requires time and resources for legislative outreach and cross-departmental coordination
	Manage data in-house	• Data ownership sits with agency; can query as needed • Additional benefits for agency; can use for planning • Possible monetization in the future	• Data handling expertise required • IT infrastructure may be needed • More burdensome as services grow beyond pilot stage
	Use third-party repositories	• Possible protection for personally identifiable information from public disclosure • Warehousing, management, and/or analysis of raw data, as needed	• Data resolution may be too coarse • Requires additional work to check against public records laws • Data ownership sits outside agency • Legal and governance framework still not mature
Multimodal Trip-Planning App	**Establish API requirements for mobility service providers**	• All providers will be seen by travelers • Avoids separate or differing agreements for individual providers	• Lack of standards for most trip discovery and payment APIs • Requires legislative or regulatory action
	Individual API agreements	• Work with providers who are ready to integrate • Avoids legislative process	• Lack of uniform standard for API connections • Might not include providers with large market share

This paper is part of the SUMC Innovation and Knowledge Accelerator, a technical assistance effort supporting the FTA MOD Sandbox program. It also complements the FTA's development of the Mobility Performance Metrics, which aim to identify new supplemental performance indicators for integrated mobility services and assess their feasibility for measuring various metrics that are typically not covered within the traditional performance measurement models. The work will shape the longer-term approach for the industry to frame the data sharing issue in the appropriate broader context of agency goals, project objectives, and emerging measurement methods.

View the full paper at: www.sharedusemobilitycenter.org/publications/

MOD
MOBILITY ON DEMAND

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